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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,592	02/25/2005	Christophe Bureau	10404.010.00-US	7940
<div>7590 12/24/2008</div> <div>Song K. Jung, Esq. McKenna Long &amp; Aldridge LLP 1900 K Street, N.W. Washington, DC 20006-1108</div>				
EXAMINER				
LEE, CHEUNG				
ART UNIT		PAPER NUMBER		
2812				
MAIL DATE		DELIVERY MODE		
12/24/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/525,592

**Applicant(s)**

BUREAU ET AL.

**Examiner**

CHEUNG LEE

**Art Unit**

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.  
4a) Of the above claim(s) 13-17 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5, 7, 8, 10-12 and 18 is/are rejected.  
7) ☒ Claim(s) 6 and 9 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 25 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Notice to Applicant***

1. Applicants' Amendment and Response to the Office Action mailed on March 20, 2008 has been entered and made of record.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-5, 8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano et al. (US Pat. 5284543; hereinafter "Kusano") in view of Lou

et al. (NPL: "Electrografting of Preformed Aliphatic Polyesters onto Metallic Surfaces," American Chemical Society, 3/7/2002, pages 2785-2788; hereinafter "Lou").

3. Referring to figure 1 and related text, Kusano discloses [Re claim 1] a method of bonding (col. 1, lines 34-45; col. 3, line 66-col. 4, line 4) a first object having a polymer surface (col. 4, lines 5-55) together with a second object having an electrically conductive or semiconductive surface (col. 5, lines 4-10), the method comprising the steps of: a) polymerizing an organic film onto conductive or semiconductive surface of the second object (col. 2, lines 45-64); and then b) bonding the polymer surface of the first object to the conductive or semiconductive surface of the second object thus grafted (col. 3, line 66-col. 4, line 4), but Kusano fails to disclose expressly wherein a) electrografting an organic film onto the conductive or semiconductive surface; and [Re claim 2] in which the electrografting of the organic film is electroinitiated grafting.

Lou discloses [Re claim 1] an electrografting process of [Re claim 3] a polymer film onto a metallic surface (see first column in page 2785). The electrografting process proceeds via [Re claim 2] an electrochemical initiation (see first column in page 2785).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use an electrografting process of a polymer film, as taught by Lou, because it would have been to improve adhesion of an organic coating onto a metal, and to improve aging resistance of the metal/polymer interface (Lou, see first column in page 2785).

4. Kusano discloses [Re claim 4] in which the polymer film is obtained from compounds selected from the group consisting of monomers and prepolymers that are partly or completely functionalized by vinyl group (col. 2, line 66-col. 3, line 15).
5. Kusano discloses [Re claim 5] in which the polymer film is obtained from a vinyl monomer selected from the group consisting of acrylonitrile, methacrylonitrile, acrylates and methacrylates, acrylamides, methacrylamides, cyanoacrylates, acrylic acid, methacrylic acid, styrene, vinyl halides, N-vinylpyrrolidone, 2-vinylpyridine, 4-vinylpyridine and vinyl-terminated telechelic compounds (col. 3, lines 1-15).
6. Kusano discloses [Re claim 8] in which the bonding consists of hotmelt bonding or cold bonding or a combination thereof (col. 1, lines 5-10; col. 5, lines 10-14).
7. Kusano discloses [Re claim 10] in which the polymer constituting the polymer surface is selected from the group consisting of polyethylenes, polypropylenes, polystyrenes, polyacrylonitriles, polysiloxanes, polyesters, polyorthoesters, polycaprolactones, polybutyrolactones, polyacrylics, polymethacrylics, polyacrylamides, epoxide resins, copolymers thereof and blends thereof (col. 4, lines 5-55).
8. Kusano discloses [Re claim 11] in which the polymer constituting the polymer surface is a hotmelt polymer (col. 4, lines 56-65).
9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano in view of Lou as applied to claim 1 above, and further in view of Naarmann (US Pat. 4547270).

10. [Re claim 7] The combined teaching of Kusano and Lou fails to disclose expressly in which the organic film is obtained from diazonium, sulfonium, phosphonium or iodonium salts, or mixtures thereof.

Naarmann discloses an electrochemical polymerization of pyrrole with phosphonium salts on an anode sheet (col. 1, lines 5-50).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use phosphonium salts to obtain an organic film, as taught by Naarmann, because it would have been to obtain high electrical conductivity, good thermal stability and stability to oxygen (Naarmann, col. 1, lines 51-54).

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano in view of Lou as applied to claim 1 above, and further in view of Capote et al. (US Pat. 6335571; hereinafter "Capote").

12. [Re claim 12] Kusano fails to disclose expressly in which the polymer surface is a polymer film coating a conductive or semiconductive material.

Referring to figures 10-12 and related text, Capote discloses wherein a semiconductor chip 100, which is coated with a liquid polymer resin 111, and a substrate 101 coated with a polymer flux 109 are bonded together (col. 8, line 61-col. 9, line 20; see fig. 10).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use a polymer film coating a conductive or semiconductive material to

bond onto a base, as taught by Capote, because it would have been to obtain a semiconductor chip on a substrate with a polymer as an adhesive.

13. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusano in view of Lou as applied to claim 1 above, and further in view of Case law/Legal Precedent.

14. [Re claim 18] The combined teaching of Kusano and Lou fails to disclose expressly wherein in which the organic film has a thickness of between 50 and 300 nm.

It would have been obvious to one of ordinary skill in the art at the time of the invention because it is a matter of determining optimum process conditions by routine experimentation with a limited number of species of result effective variables. These claims are prima facie obvious without showing that the claimed ranges achieve unexpected results relative to the prior art range (see MPEP 2144.05; *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955); *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382; *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969)).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use a certain range of thickness of an organic film, because it would have been to obtain the appropriate thickness of the organic layer to meet the requirements of a specification concerning adhesion, resistance, quality and cost.

***Allowable Subject Matter***

15. Claims 6 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The statement of reasons for the indication of allowable subject matter was given in the Office Action mailed on March 20, 2008.

### ***Response to Arguments***

16. Applicants' arguments with regard to the rejection under 35 U.S.C. 103 have been fully considered, but they are not deemed to be persuasive for at least the following reasons.

17. Applicants argue that in Lou, what is bonded to the electrografted film is not an object having a polymer surface but a simple PVC film which is formed in situ by spin-coating and which cannot be assimilated to an object having a polymer surface.

However, note that applicants' argument is largely directed to what the cited reference teaches individually. However, it is axiomatic that one cannot show nonobviousness by attacking references individually where the rejection, as here, is based on a combination of references. *In re Young*, 403 F.2d 754, 159 USPQ 725 (CCPA 1968); *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). For example, applicants argue that Lou does not disclose bonding the polymer surface of the first object to the conductive or semiconductive surface of the second object. However, Kusano, not Lou, is employed in the rejection to show that feature of the claimed



process. Lou is present in the rejection above to only show electrografting an organic film onto a conductive surface.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **CHEUNG LEE** whose telephone number is 571-272-5977. The examiner can normally be reached on Monday through Friday from 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on 571-272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Walter L. Lindsay, Jr./  
Primary Examiner, Art Unit 2812

/Cheung Lee/  
Examiner, Art Unit 2812  
December 19, 2008